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ABSTRACT

Possible selves represent individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming in the future. Possible selves contribute to the motivation process in two ways. By providing a person with a specific goal for which to strive, they structure both thoughts and actions. Possible selves also motivate the person by providing the emotional energy to persevere in pursuing the goal. This study investigated the role of possible professional selves as predictors of academic achievement and tested the hypotheses that the more a person focuses on one possible professional self, the better the later achievement will be; and that the more a person imagines a future professional career as satisfying and as attractive, the better the achievement will be. These two hypotheses were tested using data from a longitudinal 6-year study of 250 students enrolled in an integrated bachelor of arts-doctor of medicine program (Inteflex) at the University of Michigan. A self-administered questionnaire completed three times over the course of the study provided information on students' focus on medicine as the only career, their view of medicine as a satisfying career, and their view of their chosen specialty as attractive. Results from these questionnaires and from four measures of academic achievement provide clear support for both hypotheses. (Author/NB)

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The Impact of Possible Selves on Academic Achievement - A Longitudinal Analysis

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Abstract

The role of possible professional selves as predictors of academic achievement is investigated. Possible selves contribute to the motivation process in two ways. (1) They provide the person with a specific goal to strive for. By doing so, they structure the thinking and consequently the following actions. We argue that the more a person focuses on one possible professional self, the better the later achievement will be (Hypothesis 1). (2) Possible selves also motivate the person by providing the emotional energy to persevere in pursuing the goal. The more a person imagines a future professional career as satisfying and as attractive, the better the achievement will be (Hypothesis 2). These two hypotheses are tested with data of a 6 year longitudinal study of participants in an integrated A.B.-M.D. program at the University of Michigan (Inteflex program). The results provide clear support for both hypotheses.

Introduction

Possible selves represent individual's ideas of what they might become, what they would like to become, and what they are afraid of becoming some time in the future (Markus & Nurius, 1986a, b). They can have as many contents as there are parts of our lives. We might have possible selves about ourselves as psychologists, parents, gourmet cooks, friends or siblings, winning in the lottery or dying of cancer. Thinking about possible selves can have a palliative function. We daydream about winning in the lottery or meeting the dream partner in life, and this can help us to get away from our daily routine, provide excitement and entertainment. Besides this palliative function, possible selves can also contribute to shape our concrete life. They have a motivational function. In this paper we will investigate this motivational function of possible selves.

We argue that possible selves influence the motivational process in two ways. On one hand, they can provide us with a clear goal to strive for. If we imagine ourselves wandering among the pyramides in Egypt in July, we know that we have to make travel arrangements, reserve hotel rooms and buy travel guides about Egypt. We refer to this aspect of possible selves as the cognitive or structuring aspect of the motivation process. On the other hand, possible selves also provide us with

the energy to persevere in our pursuing those goals. If we imagine us having a great time in Egypt and are all excited about a certain possible self, we will pursue to reach this future self much more vigourously than if we were not too excited by it. This aspect of the motivational process will be referred to as the energizing component of possible selves.

In this paper we will investigate these two aspects of the motivational process by analyzing the influence that professional possible selves have on future academic achievement. Concerning the cognitive aspect, we argue that the degree to which a person focuses on one possible professional self will have an impact on the academic achievement connected with this profession later. The more a person concentrates on one future profession and does not consider other professions, the more clearly the way to achievement will be structured. No time and energy is wasted on pursuing activities that are connected with other careers. Our first hypothesis therefore states that the more a person focuses on one possible professional self, the better the future academic achievement connected with this profession will be.

Concerning the second motivational aspect, we argue that if a person sees the future career as the most satisfying possible career and as the most attractive career, the better the achievement will be (Hypothesis 2). The person is highly motivated to achieve in this case.

These two hypotheses are tested on data from participants in an integrated A.B.- M.D. program (Intefle. Program) at the

University of Michigan. These students enter this program after graduating from High School. Unlike other college students they have to decide already before applying to this program that they want to become M. D. s. We will investigate whether those students who focused solely on medicine as a career will academically achieve better later in the program than those students who considered one or two other fields besides medicine in the months before starting the program (Hypothesis 1). Furthermore, we will examine whether those Inteflex students who think that medicine is the most satisfying of all careers and / or who think that the medical specialty they will enter later is the most attractive career will achieve more than those students who are less extreme in these two points (Hypothesis 2).

Method

The data analyzed are from 250 Inteflex students who entered the program between 1975 and 1979 (graduating classes 1981 to 1985). The independent variables are the degree to which these students focus on medicine as the only career (Question A, Table 1), the degree to which they see medicine as a satisfying career (Question B, Table 1) and to which they see their chosen medical specialty as attractive (Question C, Table 1). These questions were presented as part of a self-administered questionnaire that the students answered a. while still in high school (Year 0), b. in their second year of the Inteflex program (Year 2) and c.

in their fourth year of the program (Year 4).

- Include Table 1 about here -

Four scores are analyzed as indicators of academic achievement (see Table 1). These are the GPA after the fifth year of the program which was coded on a scale from 1 (= 3.9 - 4.0) to 8 (= 1.8 and <), the total score in the nation wide given standardized National Board of Medical Examination I (NBME-I) which was administered in the fourth year of the program, the total score in the NBME-II which was given in the 6th year of the program, and the total GPA at the end of the program.

Results

In our first hypothesis we state that those students who only focus on medicine as a career should do better academically than those students who consider one other field besides medicine, and those students should do better than those students who consider two other careers besides medicine. This hypothesis was tested with a multivariate analysis of variance with the four indicators of academic achievement as dependent variables. The main effect was significant ($F (8 / 208) = 2.68$; $p = .008$). As can be seen in Table 2, the means are in the predicted direction:

Those students who have only one possible professional self before entering the program, have higher GPA values after the ffth year of the program, they have higher NBME-I and NBME-II total scores and they have a higher GPA at the end of the program than those students who have two possible professional selves, and these students do better than those students who have three possible selves.

- Include Table 2 about here -

The second hypothesis stated that those students who see medicine as the most satisfying career before entering the program will do better academically than those students who see it as a satisfying career. Again a Manova was conducted. The main effect is significant ($F(4 / 102) = 4.48$; $p = .002$) and - as can be seen in Table 3 - the means are in the predicted direction.

- Include Table 3 about here -

This second hypothesis was also tested on a subgroup of our larger sample. Before even entering the Inteflex program some students already had made up their mind about the medical

specialty they wanted to enter later. These students answered some questions concerning the possible self of being in this specialty. We divide this subgroup into those students who see the specialty as most attractive versus as being highly attractive versus as being attractive and analyze the average academic achievement under these three conditions. The conducted Manova was significant ($F (8 / 76) = 2.75$; $p = .01$) and - as can be seen in Table 4 - the means are in the predicted direction.

- Include Table 4 about here -

After testing these hypotheses with the help of Manovas, we decided to also test them by using regression analyses. For these analyses we used the indicators of the degree to which the students focus on one possible self, to which they imagine themselves to be satisfied and to which they perceive the future career as attractive for year 0 (before entering the program, the second and the fourth year of the program as predictors of the four indicators of academic achievement. The results are presented in Table 5.

- Include Table 5 about here -

These analyses again provide support for our hypotheses.

Conclusions

To summarize our results we can say that we find clear support for our assumptions that possible selves are definitely connected with the motivation process. We could demonstrate that there are two separate aspects of the possible selves, a cognitive or structuring apsect and an energizing aspect, that contribute to predict the academic achievement of the students four to six years after their possible selves were measured. These results demonstrate impressively the significance of possible selves as motivating agents over a long period of time. We argue that possible selves structure our thinking and thus our actions by providing a clear goal for a person's activities. They also provide the energy to persevere in pursuing these goals.

In future studies we will investigate three more aspects of the motivational influence of possible selves. First, we are interested to examine whether possible selves have an even greater impact on professional activity that is more closely tied to the professional role later. Concretely, we will investigate whether the clinical performance of these students in the internships is even more strikingly influenced by a. how focused they are on becoming M.D.s and b. how attracted they are by this career than their academic achievement. Secondly, we wonder

whether certain subgroups of our population differ in the importance of the two aspects of motivation. Inglehart, Nyquist, Brown & Moore (1987) and Oggins, Inglehart, Brown & Moore (under review) found e.g. clear gender differences in the motivations for academic achievement. Women were more motivated by person-oriented values and affective factors, while men were more motivated by mastery related values and cognitive factors. We argue that in the case of possible selves, women might be more motivated by the affective aspect, while men might be more motivated by the cognitive aspect of possible selves. Finally, we are interested in one third aspect of possible selves, namely in the amount of commitment a person has to a certain possible self. The longer a person holds a possible self, in our case: the earlier the students decided to become M. D.s, the more these possible selves should have an influence on their achievement.

Possible selves open up an exciting new perspective on motivation which we are just beginning to unrevel.

> Inglehart, Nyquist

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Oggins, Inglehart

Table 1: Description of the indicators used

The independent variables:

Question A: How many other possible fields besides medicine have you been seriously considering in recent months?

1. none
2. one other field
3. two other fields
4. three other fields
5. four or more other fields

Question B: Which one of the following statements best describes the way you feel about a career in medicine?

1. It's the only career that could really satisfy me.
2. It's the most satisfying career that I can think of.
3. It's one of several careers that I could find equally satisfying.
4. It's a career that I may find satisfying.
5. It's a career that I probably won't find satisfying.

Question C: How much importance has the following factor had in your choice of this area of specialization? Feeling that this would be an attractive career.

1. very much
2. fairly much
3. some
4. very little
5. none

Dependent variables:

Total score in the National Board of Medical Examination I (NBME-I) given in the 4th year of the program.

GPA value after the fifth year of the program; values range from 1 = 3.9 - 4.0; to 8 = 1.8 or less.

Total score in the National Board of Medical Examination II (NBME-II) given in the 6th year of the program.

Total GPA after the 6th year of the program.

Table 2: The average academic achievement under the different levels of the independent variable "focus on the possible professional self"

Number of possible selves:	one	two	three
GPA value after 5th year	2.41	2.90	3.28
NBME-I Total score	576	532	516
NBME-II Total score	534	507	490
GPA after 6th year	3.41	3.34	3.27
	(N = 61)	(N = 31)	(N = 18)

Manova result: F (8 / 208) = 2.68; p = .008

Table 3: Average Academic Achievement under the two conditions "highest satisfaction expected" and "high satisfaction expected from possible professional self" (Year 0)

	Expected satisfaction Highest	High
GPA value after 5th year	2.15	2.88
NBME-I Total score	600	541
NBME-II Total score	540	512
GPA after 6th year	3.48	3.33
	(N = 26)	(N = 81)

Manova result: F (4 / 102) = 4.48; p = 002

Table 1: Average academic achievement under the three levels of the independent variable "attractiveness of the possible professional self"

	Attractiveness of possible professional self: Highest	High	Medium
GPA value after 5th year	1.75	2.92	2.88
NBME-I Total score	609	586	523
NBME-II Total score	548	541	478
GPA after 6th year	3.61	3.48	3.31
	(N = 8)	(N = 12)	(N = 24)

Manova result: $F(8 / 76) = 2.75$; $p = .01$

Table 5: Results of the regression analyses

Predictors:	Dependent variables: NBME-I Total	GPA-value (After 5th Year)	NBME-II Total	Total GPA
Question A: Focusing on the possible professional self				
Year 0	-.09 (N = 223)	.17 * (N = 151)	-.12 (N = 147)	-.05 (N = 248)
Year 2	-.11 + (N = 222)	.30 *** (N = 151)	-.15 + (N = 147)	-.19 ** (N = 240)
Year 4	-.17 ** (N = 216)	.09 (N = 150)	-.16 + (N = 144)	-.12 + (N = 218)
Question B: Anticipated satisfaction with the possible professional self				
Year 0	.03 (N = 221)	.13 (N = 149)	-.05 (N = 145)	.02 (N = 246)
Year 2	-.05 (N = 222)	.07 (N = 151)	-.01 (N = 147)	-.004 (N = 240)
Year 4	-.14 * (N = 216)	.21 ** (N = 150)	-.19 * (N = 144)	-.14 * (N = 218)
Question C: Attractivity of the possible professional self				
Year 0	-.17 + (N = 122)	.20 + (N = 83)	-.11 (N = 79)	-.16 + (N = 136)
Year 2	-.20 * (N = 98)	.18 (N = 69)	-.19 (N = 62)	-.27 ** (N = 107)
Year 4	-.33 ** (N = 121)	.29 ** (N = 88)	-.13 (N = 79)	-.25 ** (N = 121)

Legend: + = < .10; * = < .05; ** = < .01; *** < .001